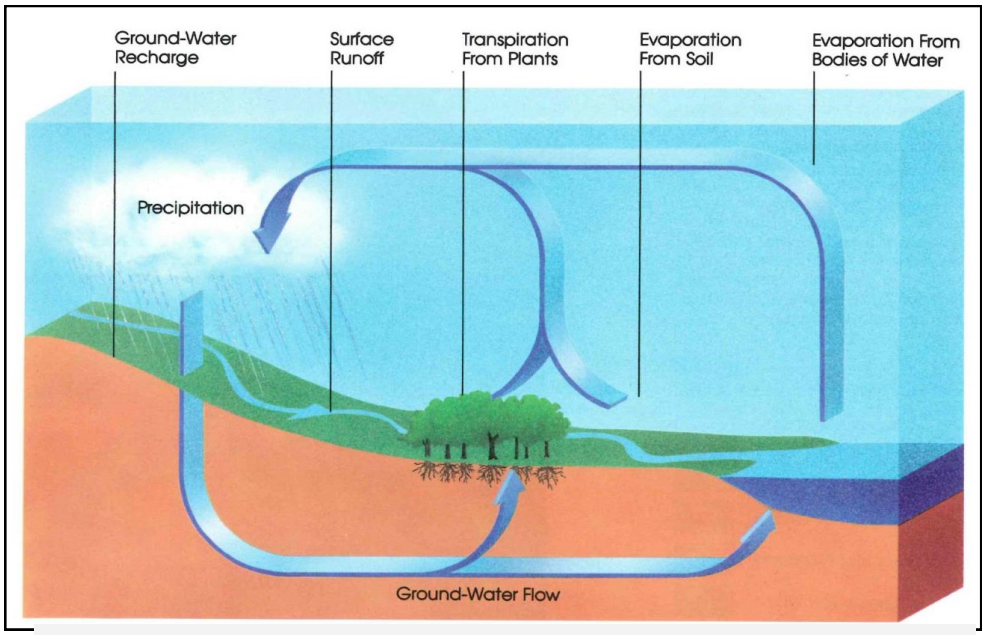
The Water Cycle



Water is constantly being recycled in nature. This process is called the Water Cycle, also referred to as the Hydrologic Cycle.

Although the distribution of water changes over time from place to place the total volume of water does not change. There is a continuous interchange of water from water bodies to **atmosphere** to land surface. This never ending **water cycle**, also referred to as the hydrologic cycle, is powered by the heat of the sun and by the force of **gravity**.

Water enters the atmosphere from surface water **evaporation** and plant **transpiration**. Surface water loss due to evaporation and transpiration are generally combined and referred to as **evapotranspiration**. As moist air is lifted it cools and water vapor condenses into millions of tiny water droplets through the process of **condensation** that form clouds. The water laden clouds are transported around the Earth until accumulated water becomes too heavy to remain suspended and returns to the surface as **precipitation** in the form of rain, snow, sleet or hail.

Much of the water supplied by precipitation is evaporated back into the atmosphere or is used by plants and returned to the atmosphere. If precipitation is heavy or soils are already saturated, surface water **runoff** occurs and water enters streams and lakes, eventually returning to the atmosphere or ocean. The remaining water from precipitation enters the subsurface and recharges groundwater supplies. Some of this water returns to the surface as spring flow or general groundwater inflow into streams and rivers.

The continuous interchange of water from bodies of water to atmosphere to land surface is a never ending water cycle that is powered by the heat of the sun and by the force of gravity.

Glossary:

Atmosphere: The Earth's atmosphere is an envelope of gas that surrounds the Earth and extends from the Earth's surface out thousands of kilometers, becoming increasingly thinner (less dense) with distance but always held in place by Earth's gravitational pull. The atmosphere contains the air we breathe and it holds clouds of moisture (water vapor) that become the water we drink.

Condensation: The conversion of water vapor to a liquid or solid state, initiated by a reduction in temperature of the water vapor.

Evaporation: The process of water changing from a liquid to a vapor (gas) due to an increase in temperature.

Evapotranspiration: The process by which water is transferred from the land to the atmosphere by evaporation from the ocean, soil and other surfaces and by transpiration from plants.

Gravity: The natural force that causes things to fall toward the earth.

Precipitation: When water is released from clouds in the form of rain, freezing rain, sleet, snow, or hail. It is the primary connection in the water cycle that provides for the delivery of atmospheric water to the Earth.

Runoff: The part of precipitation not absorbed by soil that appears as liquid water in surface streams, lakes and rivers.

Transpiration: The process by which moisture is carried through plants from roots to small pores on the underside of leaves, where it changes to vapor and is released to the atmosphere.

Water cycle: This process consists of collection, evaporation, condensation and precipitation. Collection is the process of water gathering into water bodies such as rivers, lakes or oceans. Evaporation is when the sun heats up water in rivers, lakes or oceans and turns it into water vapor. This vapor leaves the surface and goes into the air. Condensation is when the water vapor in the air gets cold and changes to liquid, which makes clouds. When enough water has formed into a cloud, it gets too heavy and returns to Earth as rain, sleet, snow or hail.

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